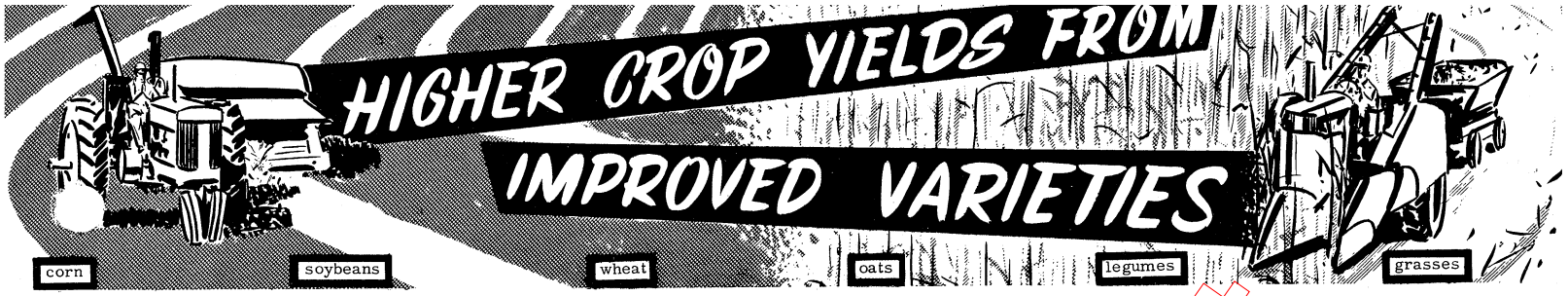
6-1-1961

Grain Sorghum

Purdue University Cooperative Extension Service



Purdue University
Agricultural Extension Service
Lafayette, Indiana

Mimeo AY-83
June, 1961

GRAIN SORGHUM

Agronomy Department

Adaptation: Under proper management grain sorghum is a highly productive crop for many areas in Indiana. It produces good yields in the sandy areas of the state and is well adapted to droughty upland soils of southern Indiana.

Sorghum seed as well as plants have an ability to survive overflow flooding for 2 to 3 weeks where corn and soybeans will be killed after 3 days under water. Flood waters need movement for sorghum to survive maximum periods of flooding.

Time of Planting: The soil should be warm, usually about a week later than normal corn planting time. However, grain sorghum should not be considered an emergency crop as the best hybrid are full season, requiring 118 to 124 days to reach maturity.

Rate and Method of Seeding: On soils of good fertility and adequate moisture the recommended rate of seeding is 10 pounds of seed in standard rows of 36-42 inches in width. At this rate of planting seeds will be 1.3 inches apart in the row with a population of 120,000 plants per acre.

On soils that are less fertile and/or more droughty the seeding rate should be 5 pounds of seed per acre.

If weeds are not a problem or pre-emergence sprays are used, excellent results can be obtained by drilling grain sorghums in 7-inch rows with a grain drill. This procedure is adapted to the less fertile, droughty upland soils of southern Indiana. The grain sorghum will shade out grassy weeds and give good yields without cultivation, except that received by use of the rotary hoe. If the narrow row system is used, 10 pounds of seed is recommended for the droughty soils and 15 pounds for the heavier soils (such as overflow areas). This system should not be used where weeds are a problem. Neither is it adapted for the sandy soils because on soils of this type additional nitrogen can be economically applied during the growing season.

Intermediate row widths between cultivated and dull plantings are not recommended because of the weed hazard and the higher yield potential of the drill plantings where moisture is sufficient.

Fertility requirement: Grain sorghum has high nitrogen requirements and 150 pounds of N per acre should be used on heavier soils. On sandy soils 100 pounds per acre is recommended. A high ratio of nitrogen will advance maturity of grain sorghum. Grain sorghum is a heavy nitrogen and moisture feeder. Furnish adequate supply of N for the grain sorghum and for the following crop. Good fertility practices and moisture will remedy any undesirable after effect.

Phosphorus and potash requirements of grain sorghum are similar to those of corn.

Spray: Atrazine, used as a pre-emergence, at 4 pounds per acre is the best control for both broadleaf and grassy weeds.

Post emergence 2.4-0 spraying is procedure for both standard and drilled rows is recommended if broad leaved weeds are present. Sorghum should be sprayed when the plant is between 4 and 12 inches in height. Head size and plant development may be affected if the spraying is delayed until the sorghum is beyond 12 inches high.

Disease and Insect Problem: For protection against seedling diseases, all seeds are now treated with fungicide.

Stem rust may be prevalent late in the season of wet years. Bacterial stripe and Helmenthosporium leaf blight may occur earlier in the season. Genetic spotting may occur on some varieties, showing up as purple or brown spots.

Insect resistance has been very good in the presently recommended varieties. Corn leaf aphids are often noticeable, but they usually die when the leaves are unfolded and cause little affect on yield. Late planting and tillers may be infected with web worm in southern Indiana. This worm eats the grain in the milk stage.

Harvesting: The combine cylinder should be operated at a slower speed than is used for small grains. Some growers widen the reel paddles to get all of the seed heads into the machine.

Storage: The moisture content of grain sorghum should be 12-13* for safe storage. It is similar in this respect to wheat or shelled corn. In some areas it has been necessary to use mechanical drying to prevent serious storage problems.

Some years the moisture level of sorghum may be low enough at harvest for storage but this cannot be depended upon. Usually sorghum is ready for harvest when the grain has 18 to 22% moisture. High moisture storage in air tight silos is satisfactory on the same basis as corn.

Utilization: As a part of a balanced ration sorghum is used about 90% as effective as corn by all classes of livestock.

Hybrids: RS610 is recommended for the entire state. It has a high yield potential although some of the later, taller varieties outyield it. Early maturing hybrids for late planting are not recommended. The only exception to this is the muck areas of northern Indiana where the early frost hazard is very great.

Other high yielding commercial hybrids include: Lindsey 788, Northrup King 310, P.H.G. 515, Frontier 4rc, Dekalb F63, and Stechley R214.

Cooperative Extension Work in Agriculture and Home Economics
State of Indiana, Purdue University
and the United States Department of Agriculture Cooperating
L. E. Hoffman, Director, Lafayette, Indiana
Issued in furtherance of the Acts of May 8 and June 30, 1914.